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1  import csv
2  from itertools import combinations
3
4  MAX_INVEST = 500 * 100
5
6  def get_csv_data():
7      with open("data/brutforce.csv", newline="") as csv_file:
8          csv_reader = csv.reader(csv_file, delimiter=",")
9          next(csv_reader)
10         for row in csv_reader:
11             stock_name = row[0]
12             # convert price from € to cents
13             price_in_cents = float(row[1]) * 100
14             # calculate benefit in cents
15             benefit_in_cents = float(row[2]) * 100
16             yield (stock_name, int(price_in_cents), int(benefit_in_cents))
17
18
19  def generate_combinations(stocks):
20      profit = 0
21      best_combination = []
22      for i in range(len(stocks)):
23          list_combinations = combinations(stocks, i + 1)
24          for combination in list_combinations:
25              total_cost = sum([stock[1] for stock in combination])
26              if total_cost <= MAX_INVEST:
27                  total_profit = sum([stock[2] for stock in combination])
28                  if total_profit > profit:
29                      profit = total_profit
30                      best_combination = combination
31      return best_combination
32
33
34  def display_result(best_combination):
35      print("Liste des actions achetées :\n")
36      for stock in best_combination:
37          print(f"{stock[0]} {stock[1] / 100}€ {stock[2] / 100}€")
38      print(f"\nSomme dépensée : {sum([stock[1] for stock in best_combination]) / 100}€")
39      print(f"\nProfit total : {sum([stock[2] for stock in best_combination]) / 100}€")
40
41  if __name__ == "__main__":
42      stocks = [stock for stock in get_csv_data()]
43      best_combination = generate_combinations(stocks)
44      display_result(best_combination)
45
```